



Pilot Upgrade of SPT Bus to Euro VI emission standards

Committee Operations

Date of meeting 08 November 2019

Date of report 22 October 2019

Report by Assistant Chief Executive

1. Object of report

To inform the Committee of plans to upgrade an SPT bus to Euro VI emission standards.

2. Background

Members will recall previous updates to the Partnership on the establishment of a Low Emission Zone (LEZ) in Glasgow City Centre, and the launch of the Bus Emissions Abatement Retrofit Programme (BEAR)¹ by Transport Scotland.

Following a successful application to the BEAR fund, SPT was subsequently awarded £21,000 in order to facilitate a pilot project to update an SPT bus from Euro V diesel to the latest Euro VI emission standards, in compliance with the Glasgow LEZ.

The pilot involves a 2016 model Optare Solo bus which operates on SPT Supported Service 59 (Mosspark to Glasgow City Centre). The exhaust retrofit will be undertaken by HJS Emissions Technology Limited, and will be the first of its type in Scotland.

The BEAR funding is administered by the Energy Savings Trust (EST) on behalf of Transport Scotland. Further details are available at; www.energysavingtrust.org.uk/scotland

The pilot follows a previous award by the Partnership to North Area Transport Association to support the purchase of a new 16 seat low floor Euro VI diesel Minibus operating on Community Bus Services (CB1 - Townhead & CB4 - Sighthill), within the Glasgow LEZ².

3. Outline of proposals

Following receipt of the grant award, an order for the equipment and installation was placed with HJS Emissions Technology Limited (HJS), totalling £21,000, to retrofit SPT owned 2016 model Optare Solo YJ16DXH Midi-bus from Euro V diesel to Euro VI emissions standards. HJS are currently the sole CVRAS³ accredited retrofit supplier for this bus model.

¹ http://www.spt.co.uk/documents/latest/SPTP141218_Agenda10.pdf

² http://www.spt.co.uk/documents/latest/Ops091118_agenda10.pdf

³ <https://www.energysavingtrust.org.uk/transport/freight-and-retrofit/clean-vehicle-retrofit-accreditation-scheme-cvras>

The scope of works involved in the SPT Bus Retrofit Pilot includes the following:

- installation of upgraded Diesel Particulate Filter (DPF);
- installation of upgraded Selective Catalyst Reduction (SCR) unit;
- integration with existing 'Ad-Blue' dosing unit; and
- installation of emissions monitoring telematics equipment.

The above works will be undertaken at First Glasgow's (the current operator of service 59) Caledonia Depot. A diagram showing the key components of the retrofit installation is included in Appendix 1 for reference. Such arrangements are standard for new Euro VI diesel buses, however with older buses such as this; bespoke retrofits (based on proven technology) are required to align with the vehicle type, engine & exhaust configuration, and vehicle management system.

It is estimated that such retrofit installations can typically reduce harmful NoX (Oxides of nitrogen) emissions by over 90% and PM10 (particulate matter) by approx. 99% compared with Euro V levels. This particular SPT bus, being a 2016 registration Euro V diesel model, is also relatively efficient in respect of carbon emissions, compared to earlier models. The retrofit to Euro VI standards maintains this performance and enhances the operating life of the bus, in respect of compliance with the Glasgow LEZ standards. The retrofit pilot will also provide the opportunity for shared learning, widens experience of the technologies involved, and paves the way for the cost effective retrofit of many more similar buses across the rest of Scotland.

The retrofit works are scheduled to be completed by the end of 2019. Following completion, the bus will resume operation on SPT Supported Service 59 (Mosspark to Glasgow City Centre) in compliance with the Glasgow LEZ emission standards.

4. Conclusions

Improvements to air quality are of the utmost importance for improving public health and the local environment of our towns and cities.

Retrofitting exhausts of existing fleets, including buses, to the latest Euro VI diesel standard is a cost effective way to support delivery of such improvements.

The SPT pilot will support delivery of these air quality improvements in Glasgow, and provide evidence, knowledge and experience to support wider retrofit deployment across Scotland.

On successful completion of this pilot, SPT will continue to explore further opportunities to reduce emissions associated with our fleet, including further applications to the BEAR scheme as appropriate.

5. Committee action

The Committee is recommended to note:

- that an award of £21,000 from the BEAR scheme has been granted to SPT by the Energy Savings Trust, to support the retrofit of an Optare Solo Midibus to Euro VI standards;
- that an order has been placed with HJS Emissions Technology Limited to undertake the retrofit to be completed in 2019/20; and

- that SPT officers will continue to explore further opportunities to reduce emissions associated with our fleet and service provision.

6. Consequences

Policy consequences	<i>In line with the Regional Transport Strategy</i>
Legal consequences	<i>None at present</i>
Financial consequences	<i>The costs of equipment and installation associated with this pilot will be funded by the grant award from the BEAR programme.</i>
Personnel consequences	<i>None at present</i>
Equalities consequences	<i>None at present</i>
Risk consequences	<i>None at present</i>

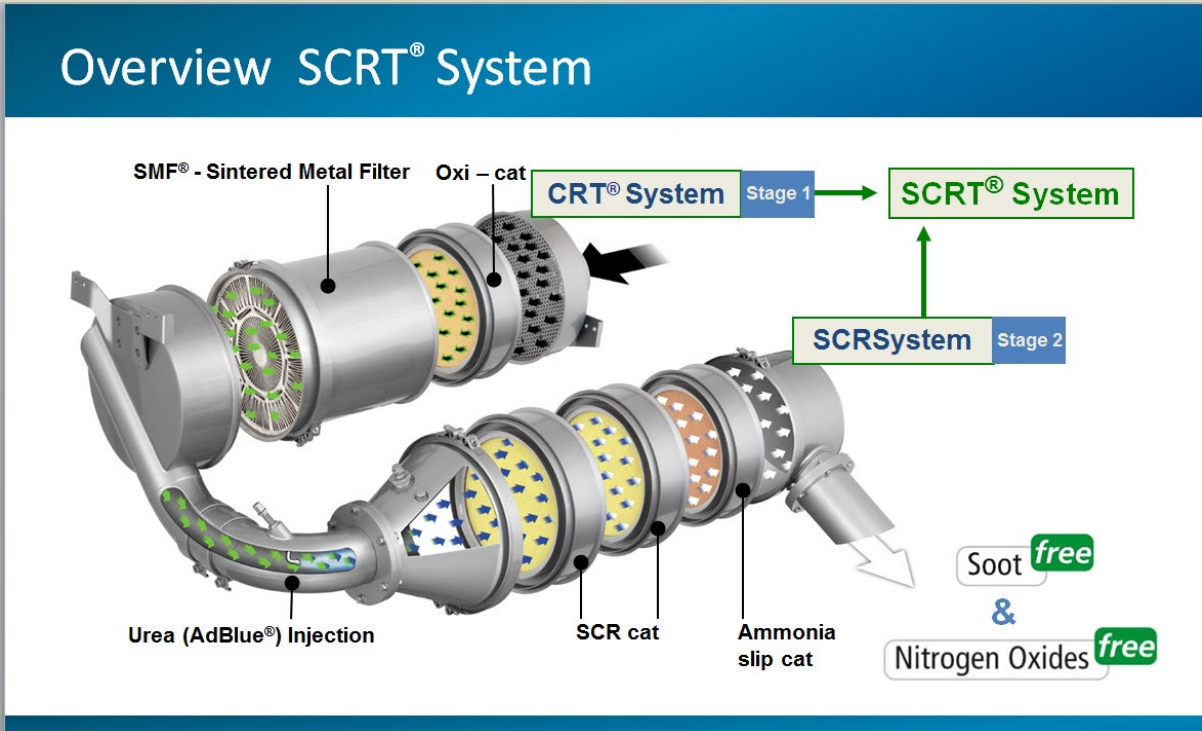
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APPENDIX 1

HJS Emissions Technology SCRT Exhaust Retrofitment System (example)



APPENDIX 2

SPT Optare Solo YJ16DXH

